

```
# Function to calculate interest
def interest(principal, time, rate):
    """
    Calculate the simple interest.

    Parameters:
    principal (float): The principal amount
    time (float): The time period (in years)
    rate (float): The rate of interest (in percentage)

    Returns:
    float: The total interest calculated
    """
    # Calculate interest using the formula I = P * T * R / 100
    total_interest = principal * time * rate / 100
    return total_interest

# Main program
if __name__ == "__main__":
    # Input values
    principal_amount = float(input("Enter the principal amount: "))
    time_period = float(input("Enter the time period (in years): "))
    interest_rate = float(input("Enter the rate of interest (in percentage): "))

    # Calculate interest
    calculated_interest = interest(principal_amount, time_period, interest_rate)

    # Display the result
    print(f"Total interest for the principal amount {principal_amount} is: {calculated_interest}")
```

```
Enter the principal amount: 10000
Enter the time period (in years): 12
Enter the rate of interest (in percentage): 2
Total interest for the principal amount 10000.0 is: 2400
```

```
# Function to calculate area and perimeter
def calculate_area_perimeter(length, width):
    """
    Calculate the area and perimeter of a rectangle.

    Parameters:
    length (float): The length of the rectangle
    width (float): The width of the rectangle

    Returns:
    tuple: A tuple containing the area and perimeter
    """
```

File "<ipython-input-20-71c372ff455 ...



You

Please explain the error:

```
File "<ipython-input-20-71c372ff455f"
speed=u+1/2*a*t*2
^
```

IndentationError: unexpected indentation



Gemini

Hypothesis

The traceback shows an `IndentationError` on line 4 of the `ipython-input-20-71c372ff455f` file. This error is raised when the indentation of a line is not consistent with the previous lines in the same block of code. In this case, it seems that the `speed=u+1/2*a*t*2` line is indented by 4 spaces, whereas the previous line `def speed(u,t,a):(0.5,12,2)` has an abnormal structure.


Based on the traceback, the issue is likely that the function definition `def speed(u,t,a):(0.5,12,2)` is not properly formatted. Instead of defining the function parameters, it's trying to use a tuple. Function parameters should be enclosed in parentheses and separated by commas, without any additional content like `:(0.5,12,2)`.

```
# Calculate area using the formula A = L * W
area = length * width
# Calculate perimeter using the formula P = 2 * (L +
perimeter = 2 * (length + width)
return area, perimeter

# Main program
if __name__ == "__main__":
    # Input values
    length_value = float(input("Enter the length of the r
width_value = float(input("Enter the width of the rec

    # Calculate area and perimeter
    area, perimeter = calculate_area_perimeter(length_val

    # Display the result
    print(f"Area of the rectangle: {area}")
    print(f"Perimeter of the rectangle: {perimeter}")
```

 Enter the length of the rectangle: 15
Enter the width of the rectangle: 16
Area of the rectangle: 240.0
Perimeter of the rectangle: 62.0

```
# Function to convert Celsius to Fahrenheit
def celsius_to_fahrenheit(celsius):
    """
    Convert Celsius to Fahrenheit.

    Parameters:
    celsius (float): Temperature in Celsius

    Returns:
    float: Temperature in Fahrenheit
    """
    # Calculate Fahrenheit using the formula F = (9/5) *
    fahrenheit = (9/5) * celsius + 32
    return fahrenheit



# Main program
if __name__ == "__main__":
    # Input value
    celsius_value = float(input("Enter the temperature in

    # Convert to Fahrenheit
    fahrenheit_value = celsius_to_fahrenheit(celsius_valu

    # Display the result
    print(f"Fahrenheit temperature: {fahrenheit_value}")
```

The unexpected indent in the following line,
`speed=u+1/2*a*t*2`, probably arises from the Python interpreter's confusion due to this malformed function definition. After encountering an unexpected element like :
`(0.5,12,2)` in the function definition, it's expecting an indented block, but the following line has an indentation that doesn't match its expectation.

Suggested Changes

 
write a python program to com
#speed using $s=ut+1/2at^2$ with f
def speed(u, t, a):

"""Calculates speed using the

Args:

u: Initial velocity.

t: Time.

a: Acceleration.

Returns:

The calculated speed.

"""

speed = u + 0.5 * a * t * t
return speed

Example usage:

result = speed(0.5, 12, 2) # U
print(result)

[Use code with caution](#)

Changes made

1. **Corrected the function definition:** Removed :

Enter the temperature in Celsius: 32
Fahrenheit temperature: 89.6

Double-click (or enter) to edit

```
# Function to calculate BMI
def calculate_bmi(weight, height):
    """
    Calculate Body Mass Index (BMI).

    Parameters:
    weight (float): Weight in kilograms
    height (float): Height in meters

    Returns:
    float: The calculated BMI
    """
    # Calculate BMI using the formula
    bmi = weight / (height ** 2)
    return bmi

# Main program
if __name__ == "__main__":
    # Input values
    weight_kg = float(input("Enter your weight in kilograms: "))
    height_m = float(input("Enter your height in meters: "))

    # Calculate BMI
    bmi_value = calculate_bmi(weight_kg, height_m)

    # Display the result
    print(f"Your BMI is: {bmi_value:.2f}")
```

Enter your weight in kilograms: 45
Enter your height in meters: 5.2
Your BMI is: 1.66

```
#write a python program for ecommerce app
#to calculate total price based on no. of quantities and tax rate
# Function to calculate total price including tax
def calculate_total_price(price_per_item, quantity, tax_rate):
    """
    Calculate the total price including tax.

    Parameters:
    price_per_item (float): Price of a single item
    quantity (int): Number of items purchased
    tax_rate (float): Tax rate as a percentage

    Returns:
    float: The total price including tax
    """
```

(0.5,12,2) and replaced it with a proper function signature `def speed(u, t, a):`.

2. Corrected the formula:

Changed

`speed=u+1/2*a*t*2` to `speed = u + 0.5 * a * t * t`. In Python 2, `1/2` would result in integer division and yield 0. Using `0.5` ensures correct calculation. Also, `t*2` was changed to `t * t` (t squared) to reflect the formula $s = ut + \frac{1}{2}at^2$


3. Added a docstring:

Included a docstring for better readability and understanding of the function's purpose.

4. Added example usage:

Demonstrates how to call the function with sample values.

► Sources

Rate this answer  

```

float: total amount to be paid
"""

# Calculate subtotal
subtotal = price_per_item * quantity

# Calculate tax
tax = subtotal * (tax_rate / 100)

# Calculate total amount to be paid
total_amount = subtotal + tax

return total_amount

# Main program
if __name__ == "__main__":
    # Input values
    price_per_item = float(input("Enter the price per item: "))
    quantity = int(input("Enter the quantity of items: "))
    tax_rate = float(input("Enter the tax rate (in %): "))

    # Calculate total price
    total_price = calculate_total_price(price_per_item, quantity, tax_rate)

    # Display the result
    print(f"The total amount to be paid is: {total_price:.2f}")

```

```

➞ Enter the price per item: 32
Enter the quantity of items: 10
Enter the tax rate (in %): 5
The total amount to be paid is: 336.00

```

```

# write a python program to calculate emi(equated monthly installment)
#formula:EMI=pr(1+r)^n/((1+r)^n-1)
def calc_emi(p,r,t):
    #here p is loan amt, r is annual rate, t is tenure
    monthly_rate=r/12*100
    emi=p*(monthly_rate*(1+monthly_rate)**t)/((1+monthly_rate)**t-1)
    print("emi to be paid",emi)

# Function to calculate EMI
def calculate_emi(loan_amount, annual_rate, tenure):
    """
    Calculate Equated Monthly Installment (EMI).

    Parameters:
    loan_amount (float): Loan amount (P)
    annual_rate (float): Annual interest rate (r)
    tenure (int): Tenure in years

    Returns:
    float: EMI
    """
    # Convert annual rate to monthly rate

```

```

# Convert annual rate to monthly rate
monthly_rate = (annual_rate / 100) / 12

# Calculate number of installments (n)
num_installments = tenure * 12

# Calculate EMI
emi = (loan_amount * monthly_rate * (1 + monthly_rate)

return emi

# Main program
if __name__ == "__main__":
    # Input values
    loan_amount = float(input("Enter the loan amount: "))
    annual_rate = float(input("Enter the annual interest rate: "))
    tenure = int(input("Enter the tenure in years: "))

    # Calculate EMI
    emi = calculate_emi(loan_amount, annual_rate, tenure)

    # Display the result
    print(f"The EMI to be paid is: {emi:.2f}")

```



```

Enter the loan amount: 6000
Enter the annual interest rate (in %): 3
Enter the tenure in years: 10
The EMI to be paid is: 57.94

```

```

# write a python program to compute
# speed using s=ut+1/2at^2 with functions concept
# Function to compute distance using the formula s = ut +
def compute_distance(initial_speed, time, acceleration):
    """
    Calculate distance using the formula s = ut + 1/2 * a

    Parameters:
    initial_speed (float): Initial speed (u)
    time (float): Time (t)
    acceleration (float): Acceleration (a)

    Returns:
    float: Distance (s)
    """
    # Calculate distance
    distance = initial_speed * time + 0.5 * acceleration
    return distance

# Main program
if __name__ == "__main__":
    # Input values

```

```
initial_speed = float(input("Enter the initial speed  
time = float(input("Enter the time (t) in seconds: ")  
acceleration = float(input("Enter the acceleration (a  
  
# Calculate distance  
distance = compute_distance(initial_speed, time, acce  
  
# Display the result  
print(f"The distance covered is: {distance:.2f} meter
```



```
Enter the initial speed (u) in m/s: 0.5  
Enter the time (t) in seconds: 12  
Enter the acceleration (a) in m/s^2: 2  
The distance covered is: 150.00 meters
```

Enter a prompt here

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